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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,299

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Zhikai Wang

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EXAMINER

LEONARD, MICHAEL L

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

11/18/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,299	Applicant(s) WANG ET AL.	
	Examiner MICHAEL LEONARD	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6, 11-13 and 14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent Pub. No. 2002/0099110 to Norlin et al.

As to claims 2 and 13, Norlin discloses a radiation curable coating composition containing backbones derived from multiple polyols by a variety of means including urethane linkages (0014), wherein polyol (a) can be a polyolefin diol, such as fully or partially hydrogenated 1,2 or 1,4 polybutadiene (0022), polyol (b) includes components having a group with an isocyanate and a polymerizable unsaturated group such (meth)acrylic type compounds (0024-0030) and component (c) are polyisocyanates (0023). Norlin further discloses useful oligomers include those which contain two or

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more urethane bonds, and preferably 2-10 urethane bonds, which meets the claimed invention (0014).

Norlin fails to expressly disclose the structure of the polyurethane oligomer.

However, due to the substantially identical makeup of the composition and the fact that the composition is radiation curable would lead a person of ordinary skill in the art to a structure with terminal unsaturated groups provided by component (b) and random blocks of polyols derived from rubber and acrylic polyols as evidenced by Norlin (0014, 0030-0032).

As to claims 3-6, Norlin discloses a number average molecular weight of from 750-10,000 g/mol (0033).

As to claim 11, Norlin discloses fully or partially hydrogenated 1,2 or 1,4 polybutadiene polyols (0022),

As to claim 12, Norlin discloses the same acrylic polyols as the invention and thus one of ordinary skill in the art would know that the glass transition temperatures would fall within the claimed range (0024-0030).

As to claim 14, Norlin discloses acrylic polyols wherein the R2 would be alkyl (0024-0030).

Claims 2-6, 10-14, and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 7,368,171 to Bushendorf et al.

As to claims 2 and 13, Bushendorf discloses a radiation curable composition prepared from a radiation polymerizable polyisocyanate prepolymer, which is the reaction product of polyisocyanates (Column 7, lines 25-67), and suitable acrylic polyols (Column 6, lines 40-67), a second part of polyols selected from hydrogenated polybutadiene and polybutadiene polyols (Column 9, lines 48-50) and further discloses a further reaction with a component containing at least two radiation polymerizable functional groups (Column 12, lines 1-54).

Bushendorf fails to disclose the structure of the polyurethane oligomer.

However, due to the substantially identical makeup of the composition and the fact that the composition is radiation curable would lead a person of ordinary skill in the art to a structure with terminal unsaturated groups provided by component (b) and random blocks of polyols derived from rubber and acrylic polyols as evidenced by Norlin (0014, 0030-0032).

As to claims 3-6, Bushendorf discloses that the radiation polymerizable polyisocyanate prepolymer has a molecular weight of from 400 to 50,000 g/mol (Column 6, lines 20-22).

As to claim 10, Bushendorf discloses wherein the composition is useful as a film laminate (Column 14, lines 1-21).

As to claim 11, Bushendorf discloses hydrogenated and unhydrogenated polybutadiene polyols (Column 9, lines 48-50).

As to claim 12, Bushendorf discloses the same acrylic polyols as the invention and thus one of ordinary skill in the art would know that the glass transition temperatures would fall within the claimed range (Column 12, lines 15-50).

As to claim 14, Bushendorf discloses acrylic polyols wherein the R2 would be alkyl (Column 12, lines 15-50).

As to claim 16, Bushendorf discloses a film laminate using the polyurethane adhesive (Column 14, lines 1-10).

Claims 2-6 and 9-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 7,189,781 to Acevedo et al.

As to claims 2-6 and 13, Acevedo discloses a moisture curable, radiation curable polyurethane prepolymer prepared from polyisocyanates, polyols such as polydiene block polyols (Column 6, lines 1-15), and hydrogen active monofunctional (meth)acrylates (Column 7, lines 5-27) to produce a acrylate terminated polyurethane prepolymer (column 3, lines 40-55) with a molecular weight of 2000 to about 50,000 (Column 4, lines 18-25).

Acevedo fails to disclose the structure of the polyurethane oligomer.

However, due to the substantially identical makeup of the composition and the fact that the composition is radiation curable would lead a person of ordinary skill in the art to a structure with terminal unsaturated groups provided by component (b) and

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random blocks of polyols derived from rubber and acrylic polyols as evidenced by Acevedo (Column 3, lines 40-67).

As to claims 9 and 15, Acevedo discloses that the composition can further include tackifying agents present in amounts of from 0 to 10% by weight (Column 15, lines 64-67).

Claims 7-8 are rejected under 35 U.S.C. 102 (b) based as being anticipated by U.S. Patent Pub. No. 2001/0031369 to Reusmann.

As to the claims, Reusmann discloses a radiation-curable binder prepared from mixtures of different polymethacrylate diols with other polyols such as dimethylolpropionic polyols and polyether polyols, with one or more polyisocyanates and other hydroxyl containing acrylates (0018-0043).

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL LEONARD/
Examiner, Art Unit 1796

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796